

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The portion of claim 10, reciting “said Panhard rod or said control arm is formed from a tube and a radial joint at an end thereof and with said axial joint at another end thereof” is unclear and indefinite as one cannot tell what is being claimed. Based on the applicant’s disclosure it is believed that the applicant is simply trying to claim that one end of the tube has a radial joint and the other end has an axial joint. However, in reading the claim as written is not clear how a control arm can be formed from a radial joint, rather than simply having a radial joint. As such appropriate clarification is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Cadden (U.S. 6,390,485 B1).

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Regarding claim 1 Cadden discloses a motor vehicle comprising:

- a vehicle chassis (16);
- a rear axle arrangement having a rigid axle (20);
- a Panhard rod or control arm (80) arranged between said vehicle chassis and said rigid axle for supporting lateral forces; and
- an axial joint, said Panhard rod or control arm being directly articulated to said vehicle chassis via said axial joint in a pivotingly movable manner (Fig. 6, joint between 80 and 16).

With respect to claim 13, Cadden also discloses motor vehicle comprising:

- a connection rod (80);
- a first joint directly connecting said connection rod to said vehicle chassis in a pivotingly movable manner (Fig. 6, connection between 80 and 16); and
- a second joint directly connecting said connection rod to said rear axle arrangement in a pivotingly movable manner, one of said first joint and said second joint being an axial joint (Fig. 6, note respective connections of rod 80 to chassis 16 and axle 20).

Regarding claim 14 Cadden further discloses that said connection rod is a control arm (80).

With respect to claim 15 Cadden additionally discloses that said connection rod is a Panhard rod (80).

5. Claims 1, 3-4, 6, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by FR2054788 [cited by applicant].

Regarding claim 1 FR2054788 discloses a motor vehicle comprising:

- a vehicle chassis (4);
- a rear axle (1) arrangement having a rigid axle;
- a Panhard rod or control arm (7) arranged between said vehicle chassis and said rigid axle for supporting lateral forces; and
- an axial joint, said Panhard rod or control arm being directly articulated to said vehicle chassis via said axial joint in a pivotingly movable manner (joint between 4 and 7).

Regarding claim 3, FR2054788 further discloses said axial joint comprises a ball and socket joint (joint shown at Figs. 5 and 6).

With respect to claim 4, FR2054788 further discloses that said ball and socket joint has a ball pivot with a joint ball, which is received in a bearing housing in a slidingly and pivotingly movable manner (Fig. 6).

Regarding claim 6, FR2054788 further discloses that said bearing housing is fastened to said vehicle chassis or to said rigid axle (Fig. 1, note joints shown at 8 and 9).

With respect to claim 13, FR2054788 also discloses motor vehicle comprising:

- a connection rod (7);
- a first joint directly connecting said connection rod (7) to said vehicle chassis (4) in a pivotingly movable manner (joint between 4 and 7); and

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a second joint directly connecting said connection rod to said rear axle (1) arrangement in a pivotingly movable manner, one of said first joint and said second joint being an axial joint (joint between 1 and 7).

Regarding claim 14, FR2054788 further discloses that said connection rod is a control arm (7).

With respect to claim 15, FR2054788 additionally discloses that said connection rod is a Panhard rod (7).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR2054788 in view of Ungruh et al. (U.S. 6,213,675 B1). FR205488 discloses all of the limitations of claims 5 and 16, except for the use of a bearing shell, which receives said joint ball in a slidingly and pivotingly movable manner, is arranged in said bearing housing. Nevertheless, bearing shells are an old and well known means of ensuring that bearing surfaces in a ball and socket joint are not damaged by friction. Ungruh discloses the use of a ball and socket joint having a bearing shell (6 including 6.1, 6.2), which receives said joint ball (4) in a slidingly and pivotingly movable manner, that is arranged in said bearing housing (1). It would have been obvious to one of ordinary skill in the art

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at the time the invention was made to have modified FR2054788 to have utilized a bearing shell, which receives said joint ball in a slidingly and pivotingly movable manner, is arranged in said bearing housing, in view of the teachings of Ungruh, so as to avoid wear, fatigue, and friction due to metal to metal contact between the housing and ball.

8. Claim 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR2054788 in view of Takeuchi (U.S. Pub. App. 2003/0074778 A1).

FR2054788 discloses all of the limitations of claim 7 except for a threaded bolt being arranged at said bearing housing. Takeuchi discloses a ball and socket joint having a threaded bolt being arranged at said bearing housing (Fig. 3, note 46 the threaded portion of element 45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified FR2054788 to utilize a ball and socket joint having a threaded bolt being arranged at said bearing housing, in view of Takuchi, so as to provide for a means for adjustment, so that the device may be optimized for use in a specific application.

With respect to claim 8, the combination of FR2054788 in view of Takeuchi further discloses that wrench attachment is formed on said bearing housing (note nut shown in Fig. 3 of Takeuchi, on threaded portion 46 of element 45, moreover the entire portion of 45 could be used as a wrench attachment depending on the type of wrench being used (i.e. and adjustable or chain-wrench could be used)).

Regarding claim 9, the combination of FR2054788 in view of Takeuchi further discloses that said threaded bolt is received in a hole on said vehicle chassis or on said rigid axle (Fig. 3 of Takeuchi, connection of 46 and 50).

With respect to claim 10, the combination of FR2054788 in view of Takeuchi further discloses that said Panhard rod or said control arm is formed from a tube (control rod 41 of Takuchi is shown as hollow) and a radial joint at an end thereof and with said axial joint at another end thereof, wherein said joint pieces are inserted into said tube on both sides by means of a bearing journal or a ball pivot (the joints are inserted into the tube as shown in Fig. 3).

9. Claims 11-12 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of FR2054788 in view of Takeuchi (U.S. Pub. App. 2003/0074778 A1) as applied to claims 7-10 above, and further in view of Mouro et al. (U.S. 2002/0136596 A1). The combination of FR2054788 in view of Takeuchi does not specifically further disclose that at least one of said radial joint at an end and axial joint at another end is arranged displaceably in said tube of said Panhard rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube. Mouro discloses the use of a joint that is arranged displaceably in said tube of said Panhard rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube (Figs. 1-4, note in particular clamping means best shown in Fig. 1b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of FR2054788 in view of Takeuchi, such that at least one of said radial joint at an end and axial joint at another end is

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arranged displaceably in said tube of said Panhard rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube, in view of the teachings of Mouro, so as to achieve the desirable result of improved reliability based on the non-existence of spontaneous rotation of the pieces between themselves, in view of the locking system provided by the longitudinal grooves in sectioned lines and the clamping system (See, Pg. 2, Para. 0020 of Mouro).

Regarding claim 12, the device taught by the combination of FR2054788 in view of Takeuchi, further, in view of the teachings of Mouro additionally teaches said clamped connection is formed by a clip (part of Mouro that 28 and 30 are attached to) and a slotted end of said tube (20 of Mouro), which said slotted end cooperates with said clip, wherein said slotted end of said tube is held by said clip under the action of a radial force against an end of a bearing journal and/or said ball pivot of one of said two joint pieces, which said end is inserted into said tube (Figs. 1-4).

10. Claim 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR2054788 in view of Ungruh et al. (U.S. 6,213,675 B1) as applied to claims 5 and 16 above, and further in view of Takeuchi (U.S. Pub. App. 2003/0074778 A1). The combination of FR2054788 in view of Ungruh does not specifically further disclose that said bearing housing is fastened to said vehicle chassis or to said axle arrangement with a threaded bolt arranged at said bearing housing and wherein a wrench attachment is formed on said bearing housing. Takuchi discloses the use of a bearing housing that is fastened to said vehicle

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chassis or to said axle arrangement with a threaded bolt arranged at said bearing housing and wherein a wrench attachment is formed on said bearing housing (Fig. 3, note 46 the threaded portion of element 45). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of FR2054788 in view of Ungruh, to have utilized a bearing housing that is fastened to said vehicle chassis or to said axle arrangement with a threaded bolt arranged at said bearing housing and wherein a wrench attachment is formed on said bearing housing, in view of Takuchi, so as to provide for a means for adjustment, so that the device may be optimized for use in a specific application.

With respect to claim 18, the combination of FR2054788 in view of Ungruh as further modified in view of Takeuchi further discloses that said Panhard rod or said control arm is formed from a tube (control rod 41 of Takuchi is shown as hollow) and a radial joint at an end thereof and with said axial joint at another end thereof, wherein said joint pieces are inserted into said tube on both sides by means of a bearing journal or a ball pivot (the joints are inserted into the tube as shown in Fig. 3).

11. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of FR2054788 as modified above, as applied to claims 17-18 above, and further in view of Mouro et al. (U.S. 2002/0136596 A1). The combination of FR2054788 as modified with respect to claims 17-18 above, does not specifically further disclose that at least one of said radial joint at an end and axial joint at another end is arranged displaceably in said tube of said Panhard

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rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube. Mouro discloses the use of a joint that is arranged displaceably in said tube of said Panhard rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube (Figs. 1-4, note in particular clamping means best shown in Fig. 1b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of FR2054788 as modified above with respect to claims 17-18, such that at least one of said radial joint at an end and axial joint at another end is arranged displaceably in said tube of said Panhard rod or of said control arm and can be fixed by means of a clamped connection in relation to said tube, in view of the teachings of Mouro, so as to achieve the desirable result of improved reliability based on the non-existence of spontaneous rotation of the pieces between themselves, in view of the locking system provided by the longitudinal grooves in sectioned lines and the clamping system (See, Pg. 2, Para. 0020 of Mouro).

Regarding claim 20, the device taught by the combination of FR2054788 as modified above with respect to claims 17-18, further, in view of the teachings of Mouro additionally teaches said clamped connection is formed by a clip (part of Mouro that 28 and 30 are attached to) and a slotted end of said tube (20 of Mouro), which said slotted end cooperates with said clip, wherein said slotted end of said tube is held by said clip under the action of a radial force against an end of a bearing journal and/or said ball pivot of one of said two joint pieces, which said end is inserted into said tube (Figs. 1-4).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH ROCCA whose telephone number is (571)272-5191. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen can be reached on 571-272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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